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SECRETARY, BOARD OF OIL, GAS & MINING

BEFORE THE BOARD OF OIL, GAS AND MINING DEPARTMENT OF NATURAL RESOURCES STATE OF UTAH

IN THE MATTER OF THE REQUEST FOR AGENCY ACTION OF WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC FOR AN ORDER AUTHORIZING THE FLARING AND VENTING OF GAS IN EXCESS OF THE AMOUNTS ALLOWED UNDER UTAH ADMIN. CODE RULE R649-3-20(1.1) FROM THE WOLVERINE FEDERAL ARAPIEN VALLEY 24-1 AND PROVIDENCE FEDERAL 24-4 WELLS LOCATED IN THE W½ OF SECTION 24, TOWNSHIP 20 SOUTH, RANGE 1 EAST, SLM, SANPETE COUNTY, UTAH

INITIAL FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

Docket No. 2010-010

Cause No. 269-01

This Cause came on for hearing before the Utah Board of Oil, Gas and Mining (the "Board") on Wednesday, February 24, 2010, at approximately 11:15 a.m., in the Auditorium of the Utah Department of Natural Resources Building in Salt Lake City. The following Board members were present and participated at the hearing: Chairman Douglas E. Johnson, Samuel C. Quigley, Jake Y. Harouny, Ruland J. Gill, Jr., James T. Jensen, and Kelly L. Payne. Board Member Jean Semborski was unable to attend. The Board was represented by Michael S. Johnson, Esq., Assistant Attorney General.

Testifying on behalf of Petitioner Wolverine Gas and Oil Company of Utah, LLC ("Wolverine") were Richard D. Moritz, Esq. – Vice-President – Land of Wolverine's parent company, Wolverine Gas and Oil Corporation (the "Parent Wolverine") and member of Wolverine, Emily Hartwick – Geologist of the Parent Wolverine, Thomas W. Zadick – Consulting Reservoir Engineer for Wolverine and the Parent Wolverine, and

Edward A. Higuera – Manager – Development of the Parent Wolverine, who were recognized by the Board as experts in petroleum land management, geology, reservoir engineering and petroleum engineering, respectively, for purposes of this Cause. Frederick M. MacDonald, Esq., of and for Beatty & Wozniak, P.C., appeared as attorney for Wolverine.

Participating in the hearing on behalf of the Division of Oil, Gas and Mining (the "Division") were Gil Hunt – Associate Director – Oil & Gas, and Dustin Doucet, Petroleum Engineer. Steven F. Alder, Esq., Assistant Attorney General, appeared as attorney on behalf of the Division.

Cornell M. Christensen, Manager of the Richfield Field Office of the United States Bureau of Land Management ("BLM"), also appeared and made a statement at the hearing.

No other party filed a response to Wolverine's Request for Agency Action in this Cause and no other party appeared or participated at the hearing.

At the conclusion of Wolverine's witnesses' testimony but prior to the conclusion of its presentation in chief, Wolverine, the Division and the BLM consulted and presented a stipulation to the Board that the Board, if it so chose and pursuant to the authority granted under Utah Code Ann. §40-6-5(3)(f) and Utah Admin. Code Rule R649-3-20(6.3), could authorize Wolverine to recomplete, restimulate, produce and conduct additional testing of the two wells at issue for a period of six months for each

well with authorized flaring and venting of the associated oil well gas; provided that the aggregate volume of gas so flared and vented from both wells does not exceed 360,000 MCF for the authorized test/production period.

The Board, having considered the testimony presented and the exhibits received into evidence at the hearing, being fully advised and for good cause, and upon Motion to approve the stipulated terms duly seconded and unanimously approved, hereby makes the following initial findings of fact, conclusions of law and order in this Cause:

INITIAL FINDINGS OF FACT

- 1. Wolverine is a Michigan limited liability company with its principal place of business in Grand Rapids, Michigan. It is a wholly-owned subsidiary of the Parent Wolverine. Wolverine is duly qualified to conduct business in the State of Utah, and is fully and appropriately bonded with all relevant Federal and State of Utah agencies.
- 2. The oil and gas underlying the W½ of Section 24, Township 20 South, Range 1 East, SLM, Sanpete County, are Federally owned and subject to the terms of United States Oil and Gas Lease UTU-80907. Said lease has been fully and properly committed to the Wolverine Federal Exploratory Unit (the "Unit"). Wolverine is the duly designated operator of the Unit.
- 3. Pursuant to the terms of the governing Unit and Unit Operating Agreements and to an approved application for permit to drill ("APD"), Wolverine spud the Wolverine Federal Arapien Valley 24-1 Well (the "24-1 Well") on November 9, 2007 at a surface

location 2,331 feet FNL and 549 feet FWL in the SW¼NW¼ of Section 24, drilled the well with a slight vertical deviation to a plugged back depth of 12,755 feet, and completed the well as a producing oil well on April 27, 2009 with producing intervals in what Wolverine has designated as the "Navajo 2," with a top location at 2,330 feet FNL and 590 feet FWL, and all within the SW¼NW¼. The 24-1 Well is currently in shut-in status.

- 4. Additionally, pursuant to the terms of the governing Unit and Unit Operating Agreements and to an approved APD, Wolverine spud the Providence Federal 24-4 Well (the "24-4 Well") on January 16, 2009 at a surface location 975 feet FSL and 41 feet FWL in the SW¼SW¼ of Section 24, drilled the well to a plugged back depth of 12,770 feet, and completed the well as a producing oil well on September 23, 2009 with producing intervals in what Wolverine has designated as the "Navajo 1." The 24-4 Well is also currently in shutin status.
- 5. Both wells are located on remote Federally owned surface lands, with the 24-1 Well at least two miles away, and the 24-4 Well at least one mile away, from any permanent residents.
- 6. Pursuant to Utah Admin. Code Rules R649-3-19(3) and R649-3-20(1.2) and (3), Wolverine filed for and received the approval of the Division for additional testing and to allow flaring and venting of associated oil well gas at unrestricted rates. However, the limitations of such administrative approval have been reached, resulting in the current shut-in

status of both wells. Federal approvals of the flaring and venting during the additional testing period by the BLM were obtained in accordance with the provisions of NTL-4A.

- 7. The Navajo 1 and the Navajo 2 are structurally associated with a fault-bend fold and a horse block, respectively, with the Navajo 1 occurring structurally higher than the Navajo 2. Both have complex fluid systems.
- 8. A 61-day flow test of the Navajo 1 was conducted in the 24-4 Well. Initial daily oil production rates were as high as 225 bbls. but, by the end of the test period, had dropped to only 67 bbls. and with a dramatic increase in water production which cannot be explained at this time. The stabilized daily rates were 73 BOPD, 52 BWPD and 491 MCFPD, with a production gas-oil ratio ("GOR") of 6,726 which increased over the test period.
- 9. Although the 24-1 Well was tested in both the Navajo 1 and Navajo 2, it was completed only in the Navajo 2. A 47-day flow test of the Navajo 2 was conducted in the 24-1 Well. Initial daily oil production rates were as high as 500 bbls. but, by the end of the test period, dropped to 67 bbls. The stabilized daily rates were 67 BOPD, 385 MCFPD and 0 BWPD, with a production GOR of 5,702 which increased over the test period. Wolverine believes the Navajo 2 is a small hydrocarbon accumulation with limited potential.
- 10. Chemical analysis of the produced gases reflect the Navajo 1 is comprised of 86.8% inert gases, 80.7% of which is CO₂, and 32 ppm H₂S, and the Navajo 2 is comprised of 19.8% inert gases and 1,000 ppm H₂S.

- the very limited data collected from the two wells, oil-water relative permeability data from wells producing from the Navajo formation located in the Covenant Field portion of the Unit located approximately 22 miles to the Southwest, and gas-liquid relative permeability data for wells producing from the analogous Nugget formation located along the Utah-Wyoming Overthrust. The model was proposed to sensitize recovery to volatile fluid properties and low permeability, and to investigate feasibility of field development or gas injection. The reservoir fluid characteristics were determined from laboratory measurement ("PVT") on bottom hole samples from the two wells and the results were integrated into the model. The reservoir fluid was found to be an undersaturated oil at initial reservoir conditions. Pressure transient analysis conducted on both wells found the reservoir to be low permeability. The pressure transient analysis also suggests the two wells are damaged (negative skin) and require recompletion and restimulation if production is to be increased to sustainable economic levels.
- 12. Additional recompletion, restimulation, testing and longer production periods are required to generate additional data for determination of whether the initial flow test decline curves are reliable, for refinement of Wolverine's reservoir model, and for more reliable economic analysis of the field and of injection and treatment options. Such testing and production will require continuing flaring and venting authorization.

- 13. A copy of the Request was mailed, postage pre-paid, certified with return receipt requested, and properly addressed, to all production interest owners in Lease UTU-80907 to their last addresses disclosed by the appropriate Federal and Sanpete County realty records, and to the State and Richfield field offices of the BLM, being the surface and mineral owner, lessor under Lease UTU-80907 and the administrator of the Unit. Copies of the return receipts, evidencing receipt of all such mailings were filed with the Board.
- 14. Notice of the filing of the Request and of the hearing thereon was duly published in the Sanpete Messenger on February 3, 2010, the Gunnison Valley Gazette on February 4, 2010 and in the Salt Lake Tribune and the Deseret Morning News on February 7, 2010.

CONCLUSIONS OF LAW

- 1. Due and regular notice of the time, place and purpose of the hearing was properly given to all parties whose legally protected interests are affected by the Request in the form and manner as required by law and the rules and regulations of the Board and Division.
- 2. The Board has jurisdiction over all matters covered by the Request and all interested parties therein, and has the power and authority to render the order herein set forth pursuant to Utah Code Ann. §§40-6-5(3)(f) and Utah Admin. Code Rules R649-3-20(5) and (6).

- 3. The limited data generated to date from the 24-1 and 24-4 Wells reflects additional testing and production of the wells with flaring and venting of the associated oil well gas is necessary before a final determination on flaring and venting authorization can be fully analyzed and made by the Board.
- 4. The terms and conditions of the additional testing and production of the 24-1 and 24-4 Wells stipulated to by Wolverine, the Division and the BLM and presented to the Board are fair, just and reasonable under the circumstances and will not result in waste.

ORDER

Based upon the Request, testimony and evidence submitted, and the initial findings of fact and conclusions of law stated above, the Board hereby orders:

- 1. Wolverine is hereby authorized to recomplete and restimulate the 24-1 and/or 24-4 Wells and produce and test each well for an additional six month period with the flaring and venting of associated oil well gas; provided, that the aggregate volume of gas so flared and vented from both wells may not exceed 360,000 MCF for the authorized test/production period.
- 2. As soon as practicable after the six month testing and production period for each well and analysis of the data generated thereby, Wolverine shall provide supplemental and/or revised exhibits and reappear before the Board to provide additional testimony concerning its Request for Agency Action in light of such testing and

production results to allow a final decision thereupon.

- 3. The initial findings of fact outlined above are not to be construed as the Board's final findings of fact in this Cause. Based upon the additional exhibits and testimony to be provided by Wolverine as outlined above, said initial findings of fact may be supplemented or superseded as the Board so deems.
- 4. Pursuant to Utah Admin. Code Rules R641 and Utah Code Ann. §63G-4-204 to 208, the Board has considered and decided this matter as a formal adjudication.
- 5. This Order is based exclusively on evidence of record in the adjudicative proceeding or on facts officially noted, and constitutes the signed written order stating the Board's decision and the reasons for the decision, all as required by the Administrative Procedures Act, Utah Code Ann. §63G-4-208 and Utah Administrative Code Rule R641-109.
- 6. Notice re: Right to Seek Judicial Review by the Utah Supreme Court or to Request Board Reconsideration: As required by Utah Code Ann. §63G-4-208(e) (g), the Board hereby notifies all parties in interest that they have the right to seek judicial review of this final Board Order in this formal adjudication by filing a timely appeal with the Utah Supreme Court within 30 days after the date that this Order issued. Utah Code Ann. §§63G-4-401(3)(a) and 403. As an alternative to seeking immediate judicial review, and not as a prerequisite to seeking judicial review, the Board also hereby notifies parties that they may elect to request that the Board reconsider this Order, which

constitutes a final agency action of the Board. Utah Code Ann. §63G-4-302, entitled, "Agency Review - Reconsideration," states:

- (1)(a) Within 20 days after the date that an order is issued for which review by the agency or by a superior agency under Section 63G-4-301 is unavailable, and if the order would otherwise constitute final agency action, any party may file a written request for reconsideration with the agency, stating the specific grounds upon which relief is requested.
- (b) Unless otherwise provided by statute, the filing of the request is not a prerequisite for seeking judicial review of the order.
- (2) The request for reconsideration shall be filed with the agency and one copy shall be sent by mail to each party by the person making the request.
- (3)(a) The agency head, or a person designated for that purpose, shall issue a written order granting the request or denying the request.
- (b) If the agency head or the person designated for that purpose does not issue an order within 20 days after the filing of the request, the request for reconsideration shall be considered to be denied.
- *Id.* The Board also hereby notifies the parties that Utah Admin. Code Rule R641-110-100, which is part of a group of Board rules entitled, "Rehearing and Modification of Existing Orders," states:

Any person affected by a final order or decision of the Board may file a petition for rehearing. Unless otherwise provided, a petition for rehearing must be filed no later than the 10th day of the month following the date of signing of the final order or decision for which the rehearing is sought. A copy of such petition will be served on each other party to the proceeding no later than the 15th day of the month.

Id. See Utah Admin. Code Rule R641-110-200 for the required contents of a petition for Rehearing. If there is any conflict between the deadline in Utah Code Ann. §63G-4-302

and the deadline in Utah Admin. Code Rule R641-110-100 for moving to rehear this matter, the Board hereby rules that the later of the two deadlines shall be available to any party moving to rehear this matter. If the Board later denies a timely petition for rehearing, the party may still seek judicial review of the Order by perfecting a timely appeal with the Utah Supreme Court within 30 days thereafter.

- The Board retains continuing jurisdiction over all the parties and over the 7. subject matter of this cause, except to the extent said jurisdiction may be divested by the filing of a timely appeal to seek judicial review of this order by the Utah Supreme Court.
- For all purposes, the Chairman's signature on a faxed copy of this Order shall be deemed the equivalent of a signed original.

DATED this 3 day of MARCH, 2010.

STATE OF UTAH

BOARD OF OIL, GAS AND MINING

Douglas/E./Johnson, Chairman

CERTIFICATE OF SERVICE

I hereby certify that I caused a true and correct copy of the foregoing INITIAL FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER for Docket No. 2010-010, Cause No. 269-01 to be mailed with postage prepaid, this 4th day of March, 2010, to the following:

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